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GENDER-ASSOCIATED DIFFERENCES IN NEOINTIMAL VOLUME AFTER CORONARY ZOTAROLIMUS-ELUTING STENT IMPLANTATION: RELATIONSHIP TO RENAL FUNCTION

i2 Poster Contributions
Ernest N. Morial Convention Center, Hall F
Monday, April 04, 2011, 3:30 p.m.-4:45 p.m.

Session Title: PCI - Complex Patients, Diabetes, Renal Insufficiency
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Background: The latest study reported reduced restenosis in females after coronary zotarolimus-eluting stent implantation compared with males. However, a paucity of data regarding gender difference in vessel responses is available.

Methods: We investigated 359 patients with prescheduled volumetric intravascular ultrasonography (IVUS) at 8 months after zotarolimus-eluting stent implantation. Clinical, angiographic and IVUS parameters at baseline were analyzed to determine potential predictors of follow-up neointimal volume.

Results: Overall, female patients had a significantly lower neointimal volume than male patients (1.05±0.69 vs. 1.35±0.89 mm3/mm; P=0.003). The neointimal volume was also lower in patients with eGFR<60 ml/min/1.73 m2 compared with patients with eGFR>60 ml/min/1.73 m2 (1.05±0.68 vs. 1.31±0.87 mm3/mm; P=0.044) despite no significant difference in lesion characteristics. Particularly, female patients yielded a correlation between eGFR and neointimal volume (r=0.232, P=0.021). Multivariate linear regression analysis showed that eGFR was independently associated with neointimal volume in female patients (P=0.019) whereas no relationship was observed in male patients (Table).

Conclusions: The association between renal function and follow-up neointimal hyperplasia was observed only in female patients. This female-specific biological finding might contribute to the gender difference in restenosis after zotarolimus-eluting stent implantation.

	Univariate regression	Multivariate regression		
Variable	*P* value	Beta-coefficient	95% CI	*P* value
Female (N=101)				
Hypertension	0.079	−0.116	−0.541 to 0.129	0.225
eGFR (ml/min/1.73 m^2)	0.021	0.227	0.001 to 0.013	0.019
Reference vessel diameter (mm)	0.011	0.315	0.215 to 0.856	0.001
Preinterventional % DS	0.074	0.219	0.002 to 0.022	0.023
Male (N=258)				
History of smoking	0.002	0.153	0.067 to 0.493	0.01
eGFR (ml/min/1.73 m^2)	0.982			
Lesion length (mm)	0.001	0.16	0.006 to 0.041	0.008
Reference vessel diameter (mm)	<0.001	0.247	0.251 to 0.708	<0.001

DS: diameter stenosis